*In the Claims*

Claims remaining in the application are as follows:

1. (Currently amended): A storage system comprising:

a storage array comprising:

a cabinet;

~~containing~~ a plurality of storage devices contained within the cabinet of at least three different and distinct controller-to-storage device bus interface technology types including volatile solid-state and non-volatile disk types in a single array and having a respective class hierarchy; and

a controller contained within the cabinet and coupled to the storage device plurality that executes hierarchical storage management and selectively controls usage of storage according to the different and distinct controller-to-storage device bus interface technology type whereby the controller allocates hierarchically inferior storage for temporary storage, unexpected mission-critical storage, and hierarchical storage management (HSM)-type low usage data storage.

2. (Previously presented): The storage device according to Claim 1 wherein:

the storage array contains an hierarchy of storage devices connected by at least three different and distinct controller-to-storage device bus interface technology types that have a respective performance hierarchy.

3. (Previously presented): The storage device according to Claim 1 further comprising:

the storage array contains an hierarchy of storage devices connected by at least three different and distinct controller-to-storage device bus interface technology types that have a respective economic or cost hierarchy.

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4. (Previously presented): The storage device according to Claim 1 further comprising:

a solid state cache and shared memory coupled interior to the controller and supplying storage as a distinct controller-to-storage device bus interface technology type for a level of hierarchical storage.

5. (Previously presented): The storage device according to Claim 1 further comprising:

Small Computer Systems Interface (SCSI) and/or Fibre Channel (FC) storage devices coupled to the controller by SCSI and/or FC buses and supplying storage as a distinct controller-to-storage device bus interface technology type for a level of hierarchical storage.

6. (Previously presented): The storage device according to Claim 1 further comprising:

Serial AT-attached (SATA) storage devices coupled to the controller by a SATA bus and supplying storage as a distinct controller-to-storage device bus interface technology type for a level of hierarchical storage.

7. (Previously presented): The storage device according to Claim 1 further comprising:

a solid state cache and shared memory coupled interior to the controller and supplying storage as a distinct controller-to-storage device bus interface technology type for a first level of hierarchical storage;

relatively higher performance Small Computer Systems Interface (SCSI) and/or Fibre Channel (FC) storage devices coupled to the controller by SCSI and/or FC buses and supplying storage as a distinct controller-to-storage device bus interface technology type for a second level of hierarchical storage;

relatively lower performance Serial AT-attached (SATA) storage devices coupled to the controller by a SATA bus and supplying storage as a

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distinct controller-to-storage device bus interface technology type for a third level of hierarchical storage; and

a process executable in the controller allocates storage capacity of the SATA storage devices to low access customer data and to short-term and unpredictable storage usage.

8. (Original): The storage device according to Claim 7 further comprising:

an hierarchical storage management controller for usage within a disk array utilizing Fibre Channel (FC) and SATA disk drives and that allocates SATA storage as uncommitted and unstructured storage.

9. (Original): The storage device according to Claim 7 further comprising:

an hierarchical storage management controller for usage within a disk array utilizing Fibre Channel (FC) and SATA disk drives and that allocates SATA storage for intra-array and/or inter-array data transfers including logical unit (LUN) copies and snapshots.

10. (Currently amended): A method of managing information storage in a storage system comprising:

enclosing an hierarchy of storage devices of at least three different and distinct controller-to-storage device bus interface technology types including volatile solid-state and non-volatile disk types in a cabinet forming a single array and having a respective class hierarchy within a storage array;

selectively controlling information usage of storage according to the different and distinct controller-to-storage device bus interface technology type; and

using hierarchically inferior storage for temporary storage, unexpected mission-critical storage, and hierarchical storage management (HSM)-type low usage data storage.

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11. (Previously presented): The method according to Claim 10 further comprising:

coupling an hierarchy of storage devices into the storage array including at least three different and distinct controller-to-storage device bus interface technology types that have a respective performance hierarchy.

12. (Previously presented): The method according to Claim 10 further comprising:

coupling an hierarchy of storage devices into the storage array including at least three different and distinct controller-to-storage device bus interface technology types that have a respective economic or cost hierarchy.

13. (Original): The method according to Claim 10 further comprising:

combining an hierarchy of storage devices into the storage array including at least a volatile shared memory, a relatively higher performance non-volatile storage, and a relatively lower performance non-volatile storage.

14. (Original): The method according to Claim 10 further comprising:

combining an hierarchy of storage devices into the storage array including at least a solid state cache and shared memory supplying storage for a first level of hierarchical storage, relatively higher performance Small Computer Systems Interface (SCSI) and/or Fibre Channel (FC) storage devices supplying storage for a second level of hierarchical storage, and relatively lower performance Serial AT-attached (SATA) storage devices supplying storage for a level of hierarchical storage.

15. (Original): The method according to Claim 14 further comprising:

allocating storage capacity of the SATA storage devices to low access customer data and to short-term and unpredictable storage usage.

16. (Original): The method according to Claim 14 further comprising:

allocating SATA storage as uncommitted and unstructured storage.

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17. (Original): The method according to Claim 14 further comprising:

allocating SATA storage for intra-array and/or inter-array data transfers including logical unit (LUN) copies and snapshots.

18. (Currently amended): A storage system comprising:

a disk array comprising:

a cabinet;

~~containing~~ an hierarchy of disk adapters and coupled storage disks contained within the cabinet, the hierarchy of disk adapters and storage disks of at least two different and distinct controller-to-storage device bus interface technology types and having a respective class hierarchy; and

a controller coupled to the disk array and contained within the cabinet that executes an hierarchical storage management functionality that selectively controls access to the hierarchy of disk adapters and coupled storage disks whereby the controller allocates hierarchically inferior storage for temporary storage, unexpected mission-critical storage, and hierarchical storage management (HSM)-type low usage data storage.

19. (Previously presented): The storage system according to Claim 18 further comprising:

a cache memory coupled interior to the controller and operable as an additional storage in the class hierarchy.

20. (Original): The storage system according to Claim 18 further comprising:

an hierarchy of storage devices having a respective performance hierarchy.

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21. (Original): The storage system according to Claim 18 further comprising:

an hierarchy of storage devices having a respective economic or cost hierarchy.

22. (Currently amended): The storage system according to Claim 18 further comprising:

~~a cabinet enclosing the disk array and the controller~~

the controller comprising at least two controller units; and

a cache mirror connection between the at least two controller units.

23. (Previously presented): The storage system according to Claim 18 further comprising:

relatively higher performance Small Computer Systems Interface (SCSI) and/or Fibre Channel (FC) disks coupled to the controller by SCSI and/or FC buses and supplying storage for a first level of hierarchical storage;

relatively lower performance Serial AT-attached (SATA) disks coupled to the controller by a SATA bus and supplying storage for a second level of hierarchical storage; and

a process executable in the controller allocates storage capacity of the SATA disks to low access customer data and to short-term and unpredictable storage usage.

24. (Currently amended): An article of manufacture comprising:

a tangible computer-readable medium having a program code for execution on a controller embodied therein for managing a storage system, the program code further comprising:

a code that causes the controller to intercommunicate among an hierarchy of storage devices of at least three different and distinct controller-to-storage device bus interface technology types including volatile solid-state and non-volatile disk types in a cabinet forming a single array and having a respective class hierarchy within a storage array; [[and]]

a code that causes the controller to selectively control information access to the hierarchy of storage devices within the storage array; and

a code that causes the controller to use hierarchically inferior storage for temporary storage, unexpected mission-critical storage, and

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hierarchical storage management (HSM)-type low usage data storage.

25. (Currently amended): A storage system comprising:

means for coupling an hierarchy of storage devices of at least three different and distinct controller-to-storage device bus interface technology types including volatile solid-state and non-volatile disk types in a cabinet forming a single array and having a respective class hierarchy within a storage array;

means for selectively controlling information access to the hierarchy of storage devices within the storage array; and

means for using hierarchically inferior storage for temporary storage, unexpected mission-critical storage, and hierarchical storage management (HSM)-type low usage data storage.

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